DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PEAKED HILL POND	Lake Area (ha): 4.45
Town: THORNTON	Maximum depth (m): 4.8
County: Grafton	Mean depth (m): 1.6
River Basin: Merrimack	Volume (m^3) : 70500
Latitude: 43°53'58" N	Relative depth: 2.0
Longitude: 71°43'12" W	Shore configuration: 1.74
Elevation (ft): 1155	Areal water load (m/yr): 11.64
Shore length (m): 1300	Flushing rate (yr^{-1}) : 7.40
Watershed area (ha): 82.4	P retention coeff.: 0.53
% watershed ponded: 0.0	Lake type: natural

BIOLOGICAL:		26 January 1993	11 August 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 95%	PERIDINIUM 90%
	#2		
•	#3		
PHYTOPLANKTON ABUNDANCE (cells/ml	L)		1110
CHLOROPHYLL-A (µg/L)			6.40
DOM. ZOOPLANKTON (% TOTAL)	#1	KELLICOTTIA 39%	NAUPLIUS LARVA 52%
•	#2	CALANOID COPEPODS 39%	KERATELLA 16%
	#3	KERATELLA 22%	CALANOID COPEPODS 14%
ROTIFERS/LITER		14	33
MICROCRUSTACEA/LITER		9	108
ZOOPLANKTON ABUNDANCE (#/L)		23	144
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			2.9
BOTTOM DISSOLVED OXYGEN (mg/L)		4.8	1.9
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

EMICAL: Lake: PEAKED HILL POND Town: THORNTON					
	26 January 1993		11 August 1992		
DEPTH (m)	1.5	3.0	1.0		3.5
pH (units)	5.9	5.9	6.4		6.1
A.N.C. (Alkalinity)	3.4	3.4	2.2		2.2
NITRATE NITROGEN	0.05	0.05	< 0.02		< 0.02
TOTAL KJELDAHL NITROGEN	0.17	0.14			
TOTAL PHOSPHORUS	0.009	0.007	0.014	,	0.017
CONDUCTIVITY (µmhos/cm)	25.1	25.3	19.1		19.2
APPARENT COLOR (cpu)	17	16	27		32
MAGNESIUM			0.38		
CALCIUM			1.6		
SODIUM			< 1.0		
POTASSIUM			< 0.40		
CHLORIDE	< 3	< 3	< 3		< 3
SULFATE	5	5	4		4
TN : TP	24	27			
CALCITE SATURATION INDEX			4.3		

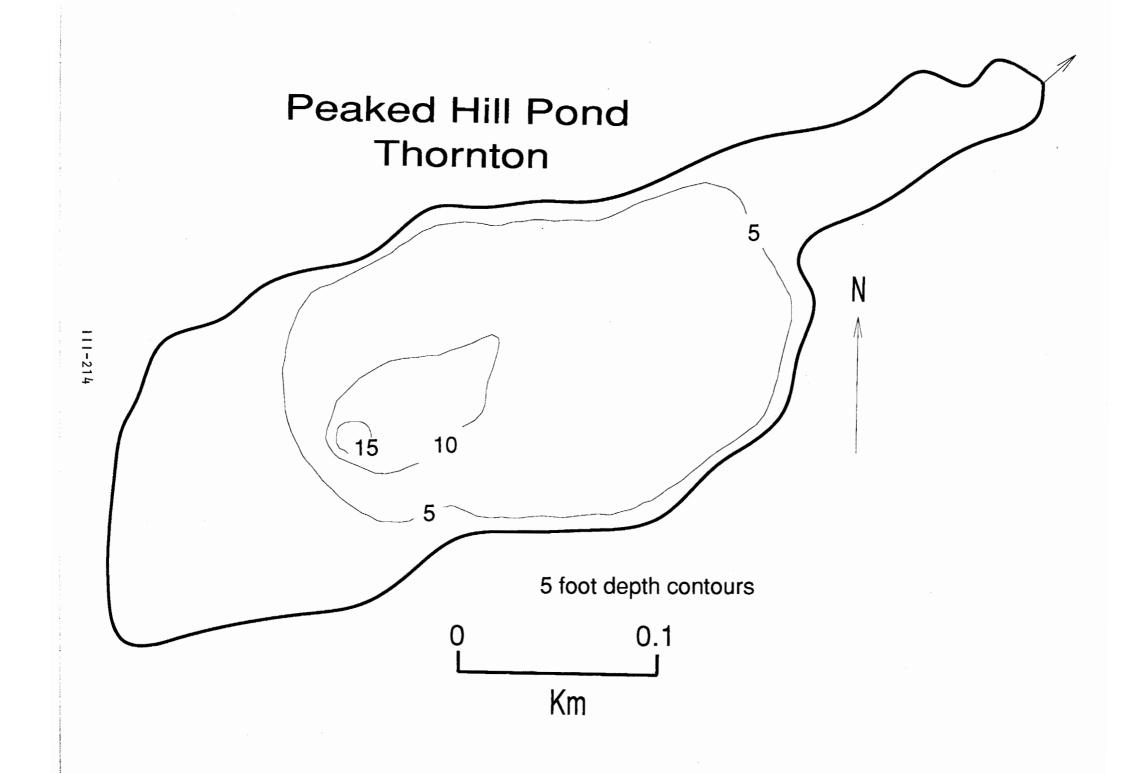
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	4	1	8	Meso.

COMMENTS:

- 1. This is a remote pond, accessible by foot only. It was surveyed jointly with the Fish and Game Department. It is also sampled each spring by helicopter as part of the DES acid rain monitoring program and the F&G fish stocking program.
- 2. Merismopedia (80%) and blue-greens (85%) were the dominant wholewater phytoplankton genus and class respectively.



FIELD DATA SHEET

LAKE: PEAKED HILL POND DATE: 08/11/92

TOWN: THORNTON

WEATHER: HUMID, PARTLY SUNNY

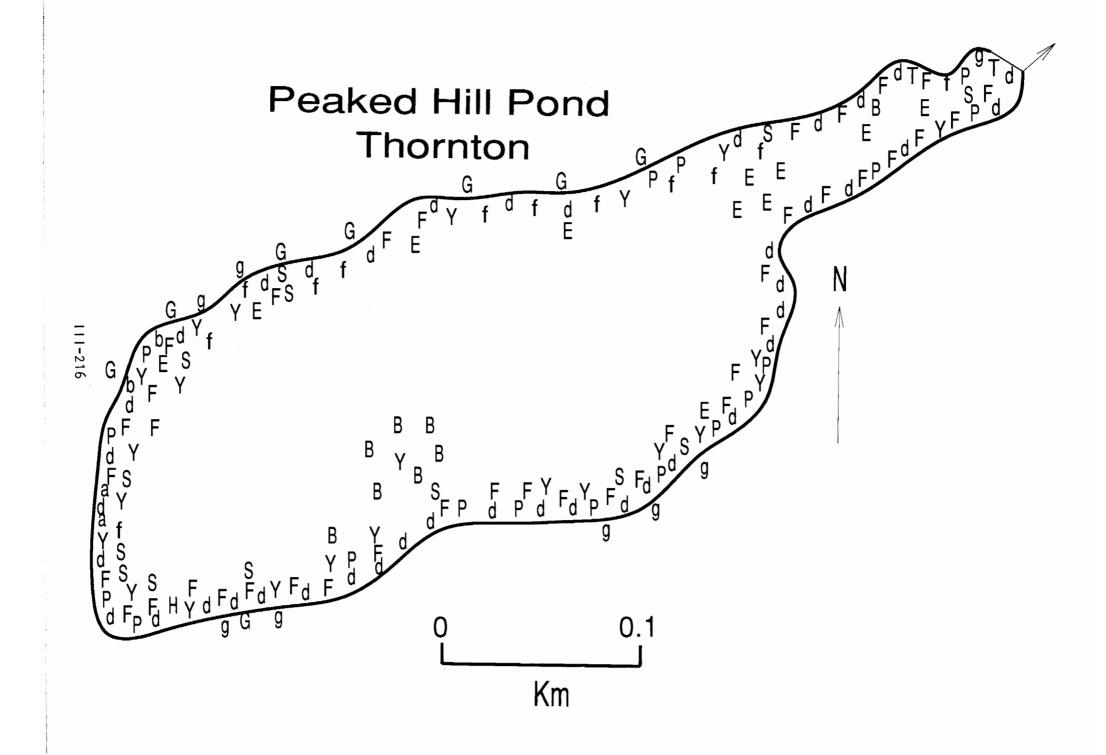
DEPTH (M)		TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION		
	0.1	22.0	8.4	95 %		
	1.0	21.0	8.6	95 %		
	2.0	20.5	8.1	89 %		
	3.0	20.0	7.0	77 %		
	4.0	19.0	1.9	20 %		
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SECCHI DISK (m): 2.9 COMMENTS:

BOTTOM DEPTH (m): 4.4

TIME: 1145

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

TOWN: THORNTON

DATE: 08/11/92

PLANT NAME Key ABUNDANCE **GENERIC** COMMON Y Nuphar Scat/Common Yellow water lily F Nymphoides cordatum Floating heart Common P Pontederia cordata Pickerelweed Scat/Common Dulichium arundinaceum Common/Abun Three-way sedge E Eriocaulon septangulare Pipewort Scattered S Bur reed Sparganium Scattered В Brasenia schreberi Water shield Scattered G Gramineae Grass family Scattered Myrica gale g Sweet gale Scattered b Scirpus Bulrush Sparse Peltandra virginica Arrow arum а Sparse St. John's-wort Hypericum Sparse

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

LAKE: PEAKED HILL POND

1. Freshwater sponges and salamanders were observed.